

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☐GAS
WELL ☒

OTHER

SINGLE
ZONE ☐MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Tenneco Oil Company

3. ADDRESS OF OPERATOR

720 S. Colorado Blvd., Denver, CO 80222

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

990' FSL, 990 FEL
At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

6.5 East of Blanco, NM

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drig. unit line, if any)18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

16. NO. OF ACRES IN LEASE

1,692.62

19. PROPOSED DEPTH

7,554

17. NO. OF ACRES ASSIGNED
TO THIS WELL

E320

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6465 G.R.

22. APPROX. DATE WORK WILL START*

ASAP

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13 3/4"	9 5/8" new	36#, K-55	300'	Circulate to Surface
8 3/4"	7" new	23#, K-55	3,500'	Circulate to Surface
6 1/4"	4 1/2" new	10.5-11.6#	7,554'	Circulate Through Liner Hanger

SEE ATTACHED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present production and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED J. D. Traywick

TITLE Administration Supervisor

DATE 10/25/79

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

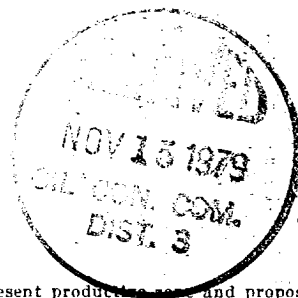
APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side



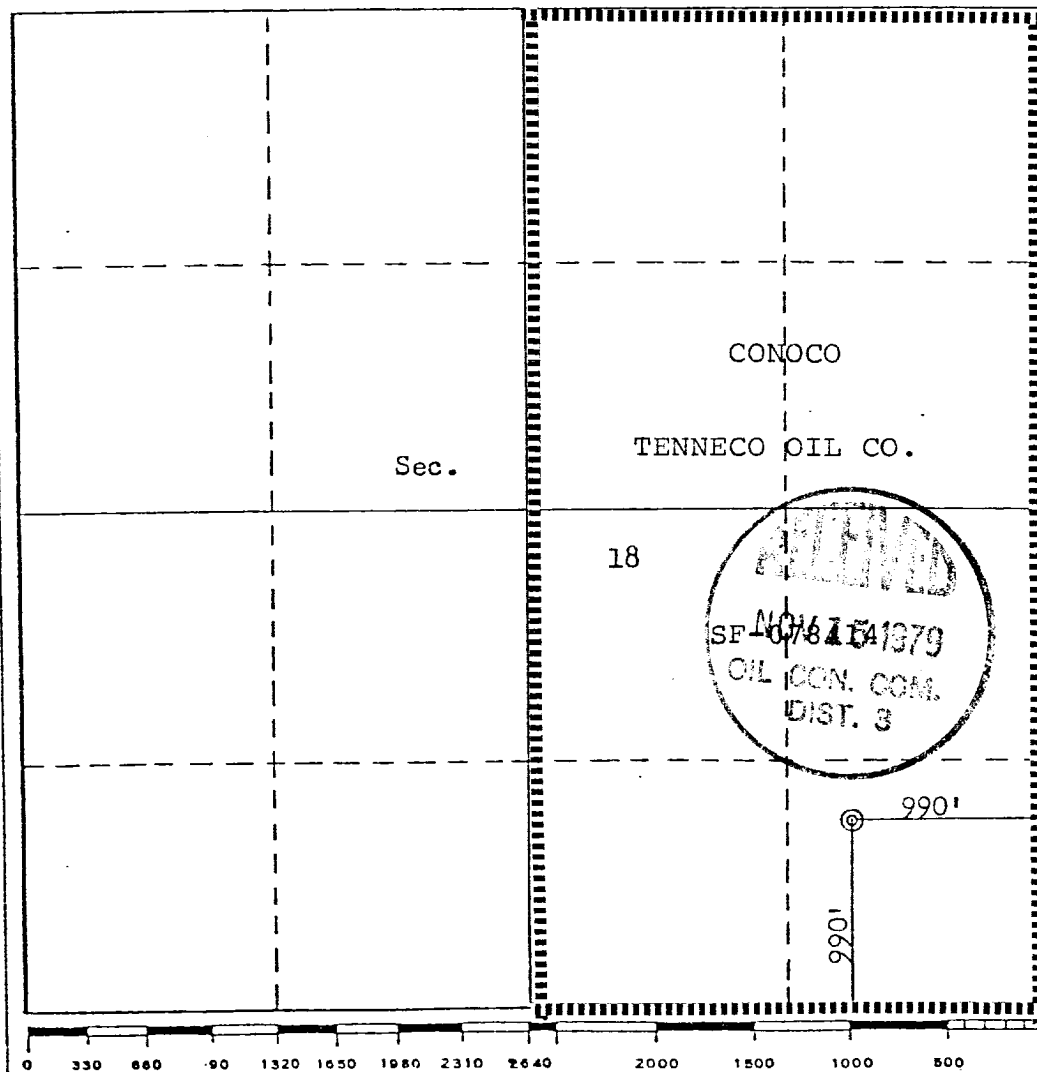
Operator TENNECO OIL COMPANY			Lease DAY		Well No. 5
Unit Letter P	Section 18	Township 29N	Range 8W	County San Juan	
Actual Footage Location of Well: 990 feet from the South line and 990 feet from the East line					
Ground Level Elev. 6465	Producing Formation Dakota	Pool Basin Dakota	Dedicated Acreage: 320 Acres		

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☒ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

J. D. Traywick
Name **J. D. Traywick**
Position **Administration Supervisor**
Company **Tenneco Oil Company**
Date **October 25, 1979**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed **August 20, 1979**
Registered Professional Engineer and/or Land Surveyor
Fred B. Kerr Jr.
Certificate No. **3950**
F. B. KERR, JR.

PROGNOSIS TO DRILL AND COMPLETE

DIVISION: Rocky Mountain

DATE: October 25, 1979

LEASE: Day

WELL NO.: 5

LOCATION: 990' FSL, 990' FEL
Sec. 18, T 29N, R 8W
San Juan County, NM

FIELD: Basin Dakota

ESTIMATED ELEVATION: 6350' FL.

ESTIMATED TOTAL DEPTH: 7554'

PROJECTED HORIZON: Dakota

DRILLING, CASING AND CEMENT PROGRAM:

- 1) MIRUT.
- 2) Drill a 13 3/4" hole to 300⁺-. Run 9 5/8", 36#, K-55, ST & C casing to T.D. and cement to surface. Use 2% CaCl₂ in cement.
- 3) Cut off casing and weld on casing head. Pressure test weld to 1000 psi. NUBOP's and manifold. Pressure test casing, BOP's and manifold to 1000 psi for 30 minutes.
- 4) Drill out shoe and reduce hole to 8 3/4". Drill 8 3/4" hole to 3500⁺-. Run 7", 23#, K-55, ST & C casing to T.D. and cement to surface.
- 5) Land casing in slips and cut off. Install drilling spool on casing head. Install rotating head, manifold and flare line. Pressure test blind rams, manifold and casing to 1000 psi for 15 minutes. Pick up drilling assembly and 3 1/2" drill pipe. Pressure test pipe rams to 1000 psi for 15 minutes..
- 6) Drill out of 7" with 6 1/4" bit using gas as circulating fluid. Drill a few feet of formation and then blow hole with gas until it is dusting. Drill to T.D.
- 7) Log the hole dry as directed by the wellsite geological engineer and gauge the natural flow from the Dakota.
- 8) If productive, run 4 1/2", 10.5-11.6#, casing to T.D. as per casing design. Cement in one stage. Bring cement through liner hanger.
- 9) If nonproductive, plug and abandon as per U.S.G.S. requirements.

ESTIMATED FORMATION TOPS:

OJO Alamo	1904' (water)	Mancos	5601'
Pictured Cliffs	2981' (gas)	Gallup	6481'
Cliffhouse	4658' (gas)	Greenhorn	7215'
Menefee	4726' (gas)	Dakota "A"	7306' (gas)
Point Look Out	5454' (gas)	T.D.	7554'

DRILLING MUD PROGRAM:

0-300'	Spud Mud
300'-T.D.	7" casing-low solids fresh water mud. No W.L. control.
3600'+-T.D.	Gas

CORING AND TESTING PROGRAM:

No cores or tests. Gauge natural flow from the Dakota.

DEVIATION SURVEYS:

1. Survey surface hole at 100' intervals. Maximum allowable deviation at
2. FROM SURFACE TO TOTAL DEPTH DEVIATION SURVEYS MUST BE TAKEN EVERY 500' OR EACH TRIP WHICHEVER IS FIRST. This may entail running the TOTCO on wireline. Record each survey on the AAODC Drilling Report Sheet. Maximum allowable change in deviation is 1° per 100'.

SAMPLES:

As directed by wellsite geological engineer.

WELL SURVEYS:

GR/FDC/CNL caliper from T.D. to base of Mesaverde.

GR/SP/SN induction from T.D. to surface casing.

BOP: From 300' to T.D. as per U.S.G.S. requirements.

PREVENTORS MUST BE CHECKED FOR OPERATION EVERY 24 HOURS, AND THE CHECK MUST BE RECORDED ON THE AAODC DRILLING REPORT SHEET.

Drilling reports for the past 24 hours will include depth, footage, time distribution, activity breakdown, mud properties, bit record, bottom hole assembly, daily and cumulative mud costs, plus any other pertinent information; will be called into Tenneco Oil Company, Denver, Colorado between 7:30 A.M. and 8:00 A.M.

1. 303-758-7130 (office) - Don Barnes
303-758-7287 - Don Barnes private line - Monday-Friday (before 7:45 A.M.)
2. 303-936-0704 (home) - Don Barnes - weekends and holidays
3. 303-424-1269 (home) - John Owen - if Don Barnes not available

The yellow sheet of the IADC Report to be filled out completely, the original copy of the drilling time recorder, and copies of any invoices from this well signed and received for Tenneco Oil Company will be mailed daily to:

TENNECO OIL COMPANY
PENTHOUSE
720 SOUTH COLORADO BOULEVARD
DENVER, COLORADO 80222

ATTENTION: DRILLING DEPARTMENT

In case of an emergency, notify the following:

1. Mr. Don Barnes, Division Drilling Engineer - 303-936-0704.
2. Mr. John Owen, Project Drilling Engineer - 303-424-1269.
3. Mr. Mike Lacey, Division Production Manager - 303-979-0509.

DAY 51. Existing Roads

- A. Proposed Well Site Location: It is located at 990' FSL, 990' FEL, Sec. 18, T 29N, R 8W, San Juan County, NM. (See Attachment I, Form C-102.)
- B. Planned Access Route: The route begins at the first dirt road to the South onto Manzanares Mesa from NM Hwy. 64. Proceed South, Southwest for 1.6 miles to the site.
- C. Access Road Labelled:
Color Code: Red - Improved Surface
Blue - New Access Road
- D. Not applicable - the proposed well is a development well.
- E. The proposed well is a development well. See Exhibit II for existing roads within a one mile radius.
- F. Existing Road Maintenance or Improvement Plan:
The existing roads will require minimal maintenance.

2. Planned Access Roads

(All roads are existing roads.)

- A. Width:
The average width of the road is twenty feet.
- B. Maximum Grades: Less than 3%.
- C. Turnouts:
There are no turnouts planned as sight distance is sufficient.
- D. Drainage Design:
The road is center crowned to allow drainage. The road is flat primarily.
- E. Culverts Use Major Cuts and Fills: No culverts or major cuts and fills will be required.
- F. Surfacing Material:
Native soil has been wetted, bladed and compacted to make the road surface, which is existing.

2. Planned Access Roads (Cont'd)

- G. Gates, Cattleguards, Fence Cuts:
No gates, cattleguards or fences will be needed.
- H. New Roads Centerlined Flagged:
Existing Roads.

3. Location of Existing Wells

The proposed well is a development well. Exhibit III shows existing wells within a one mile radius.

- | | | |
|----|----------------------------------|-----------------|
| A. | Water Wells: | None |
| B. | Abandoned Wells: | None |
| C. | Temporarily Abandoned Wells: | None |
| D. | Disposal Wells: | None |
| E. | Drilling Wells: | None |
| F. | Producing Wells: | See Exhibit III |
| G. | Shut-In Wells: | None |
| H. | Injection Wells: | None |
| I. | Monitoring or Observation Wells: | None. |

4. Location of Existing and/or Proposed Facilities

- A. Existing facilities within one mile owned or controlled by Lessee/Operator:

- | | | |
|-----|-------------------------|-----------------|
| (1) | Tank batteries - | None |
| (2) | Production facilities - | See Exhibit III |
| (3) | Oil Gathering Lines - | None |
| (4) | Gas Gathering Lines - | None |
| (5) | Injection Lines - | None |
| (6) | Disposal Lines - | None |

- B. New facilities in the event of production:

- (1) New facilities will be within the dimensions of the drill pad.
- (2) See Exhibit IV).
- (3) Construction Materials/Methods:
Construction materials will be native to the site.
Facilities will consist of a well pad.
- (4) Protection of Wildlife/Livestock: Facilities will be fenced as needed.

4. Location of Existing and/or Proposed Facilities (Cont'd)

B. New facilities in the event of production: (cont'd)

(5) New facilities will consist of a wellhead, tank & production unit.

C. Rehabilitation of Disturbed Areas:

Following the completion of construction, those areas required for continued production will be graded to provide drainage and minimize erosion. Those areas unnecessary for use will be graded to blend with surrounding topography per BLM recommendations.

5. Location and Type of Water Supply

A. Location and type of water supply:

Water will be hauled from a private source.

B. Water Transportation System:

Water trucks will be used.

C. Water wells:

N/A.

6. Source of Construction Materials

A. Materials:

Construction materials will consist of soil native to the site. Any topsoil, if present, will be stripped and stockpiled as needed.

B. Land Ownership;

The planned site and access road is on federal land administered by the Bureau of Land Management.

C. Materials Foreign to the Site:

N/A.

D. Access Roads:

No additional roads will be required.

7. Methods for Handling Waste Disposal

A. Cuttings:

Cuttings will be contained in the reserve pit.

B. Drilling Fluids:

Drilling fluids will be retained in the reserve pit.

C. Produced Fluids:

Produced fluids, including produced water will be collected in the reserve pit. Any small amount of hydrocarbon that may be produced during testing will be retained in the reserve pit. Prior to clean up operations, the hydrocarbon material will be skimmed.

7. Methods for Handling Waste Disposal (Cont'd)

- D. Sewage:
Sanitary facilities for sewage disposal will consist of at least one pit toilet, during the driller operations. The pit will be backfilled immediately following completion of the drilling operation.
- E. Garbage:
There probably will not be much putrescible garbage to dispose of. However, it will be disposed of along with the refuse in a constructed burn pit, which will be fenced. The small amount of refuse will be burned and the pit will be covered with a minimum 36 inch cover upon completion.
- F. Clean-Up of Well Site:
Upon the release of the drilling rig, the surface of the drilling pad will be prepared to accommodate a completion rig, if testing indicates potential productive zones. In either case, the "mouse hole" and "rat hole" will be covered to eliminate a potential hazard to livestock. The reserve pit will be fenced to prevent entry of livestock until the pit is backfilled. Reasonable clean up will be performed prior to final restoration of the site.

8. Ancillary Facilities

None required.

9. Well Site Layout

- A. See Exhibit IV.
- B. Location of pits, etc. See Exhibit IV.
- C. Rig orientation etc. See Exhibit IV.
- D. Lining of pits:
Pits will not be lined. They will be covered with a fine mesh netting, if necessary, for the protection of wildlife if fluids are found to be toxic.

10. Plans for Restoration of Surface

- A. Reserve pit clean up:
The pit will be fenced prior to rig release and shall be maintained until clean up. Prior to backfilling any hydrocarbon material on the pit surface will be removed. The fluids and solids contained in the pit shall be backfilled with soil excavated from the site and with soil adjacent to the reserve pit. The restored surface of the reserve pit will be contoured as needed to minimize erosion. The reserve pit area will be seeded per BLM recommendations during the appropriate season following final restoration of the site.

10. Plans for Restoration of Surface (Cont'd)

- B. Restoration Plans - Production Developed:
The reserve pit will be backfilled and restored as described under Item A. In addition, those disturbed areas not required for production will be graded to blend with the surrounding topography, and seeded, per BLM recommendations. The portion of the drill pad required for production and turning areas will be graded to minimize erosion and provide access to production facilities under inclement conditions. Following depletion and abandonment of the site, restoration procedures will be those under Item C. below.
- C. Restoration Plan - No Production Developed:
The reserve pit will be restored as described above. With no production developed, the entire surface disturbed by construction of the drilling pad will be restored. The site will be contoured to blend with the surrounding topography. The site will be seeded according to BLM recommendations. If the new access road is not required for other development plans, it will be obliterated and restored and seeded per BLM recommendations.
- D. Rehabilitation Time Table:
Upon completion of operations the initial clean up of the well site will be performed. Final restoration of the site will be performed as soon as possible according to procedural guidelines published by the USGS and BLM. Seeding of the disturbed areas which are no longer required will be performed during the appropriate season, following final restoration.

11. Other Information

- A. Surface Description: The proposed site is located in a sage flat area with minimal dirt work required. An existing access to a single well will be crossed and is to be re-routed around the short end of the location. The principal vegetation consists of Sage, Mustard Weed, and various grasses.
- B. Surface Use Activities:
The surface is federally owned and managed by the BLM. The predominant surface use is mineral exploration and production.
- C. Proximity of Water, Dwellings and Historical Sites:
 - 1. Water:
There are no reservoirs or streams in the immediate area.
 - 2. Occupied Dwellings:
There are no occupied dwellings or buildings in the area.
 - 3. Sites:
An archeological reconnaissance has been performed for this location and clearance has been granted.


12. Operator's Field Representative

Donald S. Barnes
Division Drilling Engineer
Tenneco Oil Company
720 South Colorado Blvd.
Penthouse
Denver, CO 80222
(303) 758-7130 Ext. 212

13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions as they actually exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the proposed work performed by Tenneco Oil Company and its contractors and subcontractors will conform to this plan.

Date: October 25, 1979


J. D. Traywick
Administration Supervisor

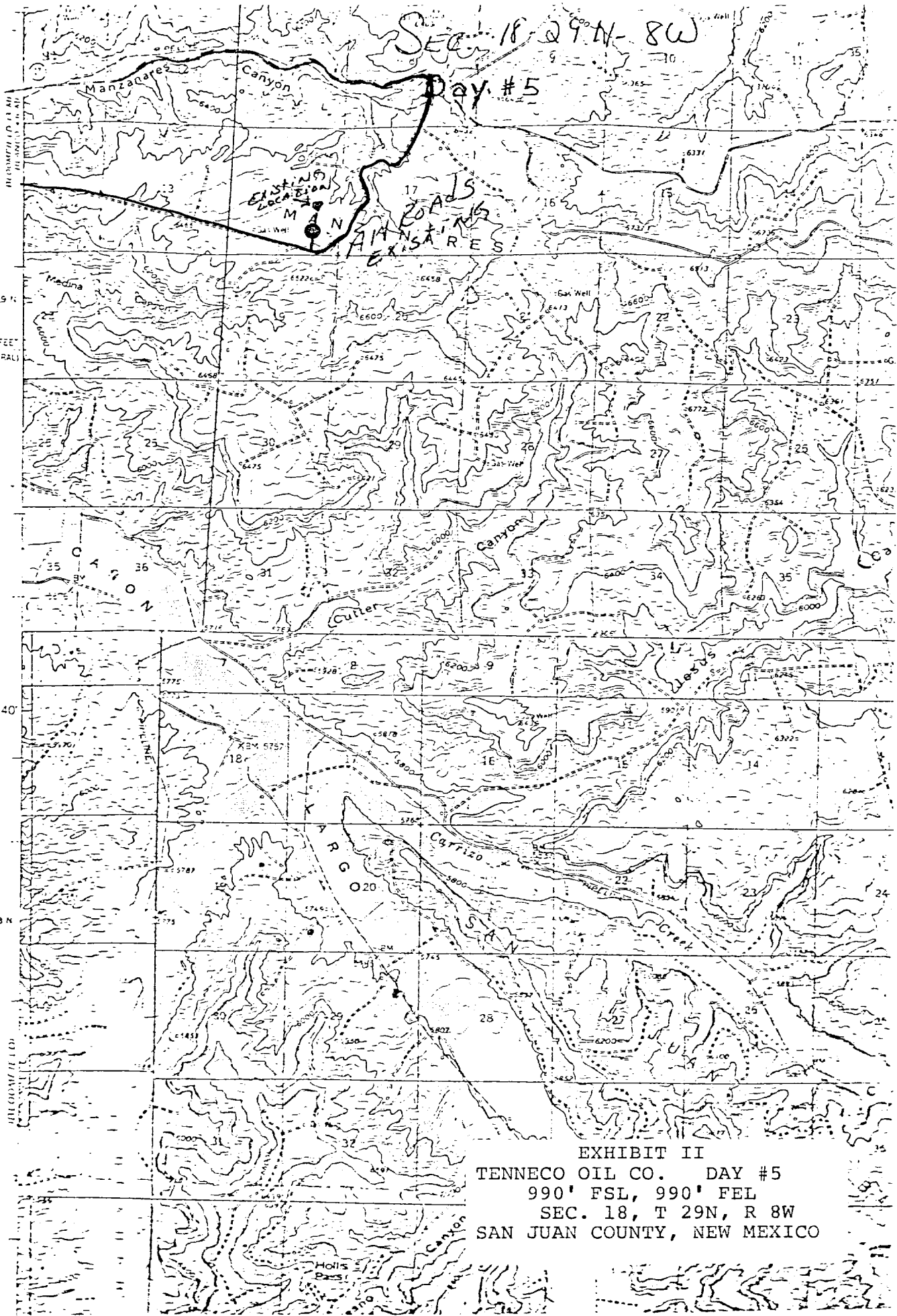


EXHIBIT II
TENNECO OIL CO. DAY #5
990' FSL, 990' FEL
SEC. 18, T 29N, R 8W
SAN JUAN COUNTY, NEW MEXICO

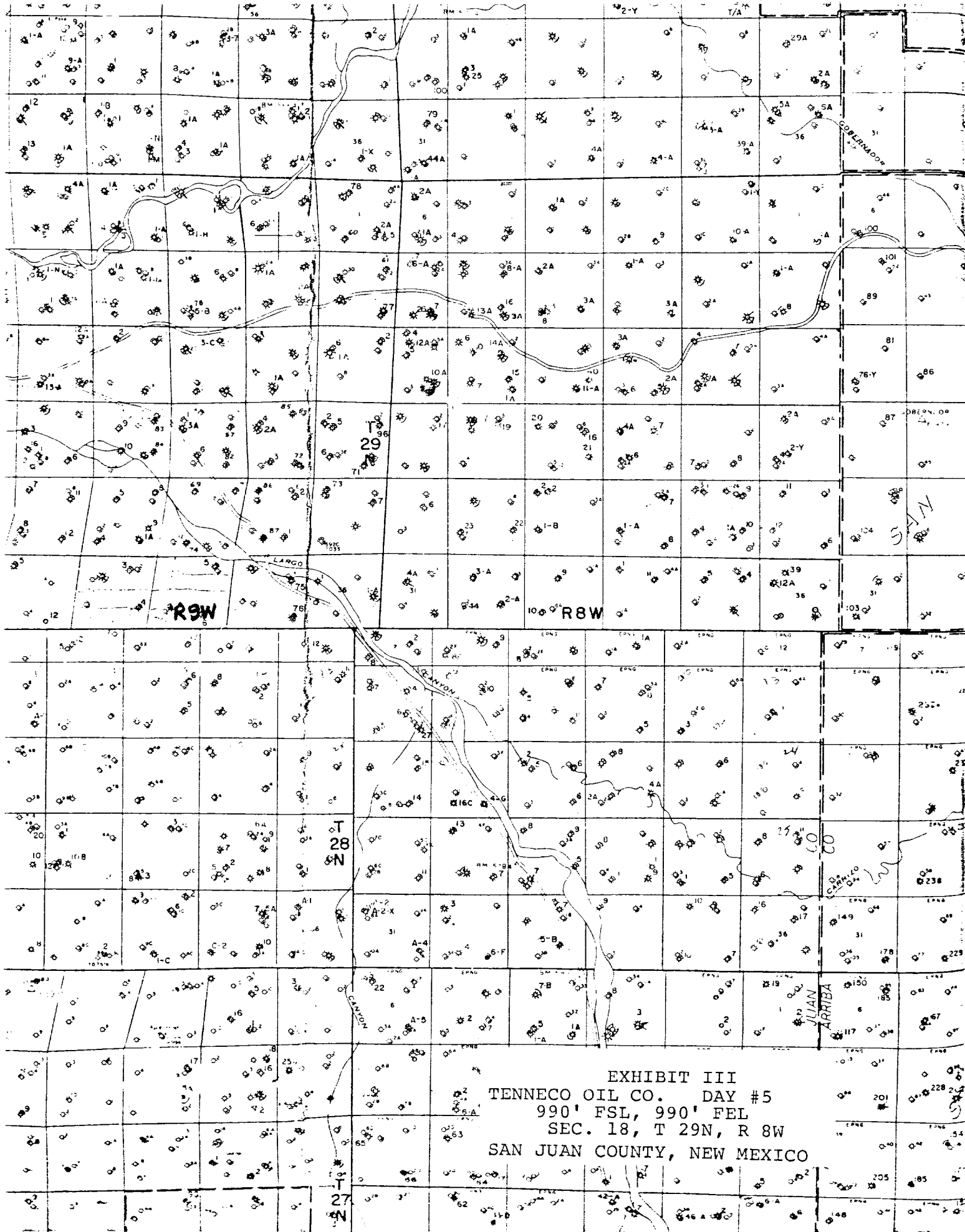


EXHIBIT III
TENNECO OIL CO. DAY #5
990' FSL, 990' FEL
SEC. 18, T 29N, R 8W
SAN JUAN COUNTY, NEW MEXICO

TENNECO OIL COMPANY

CALCULATION SHEET

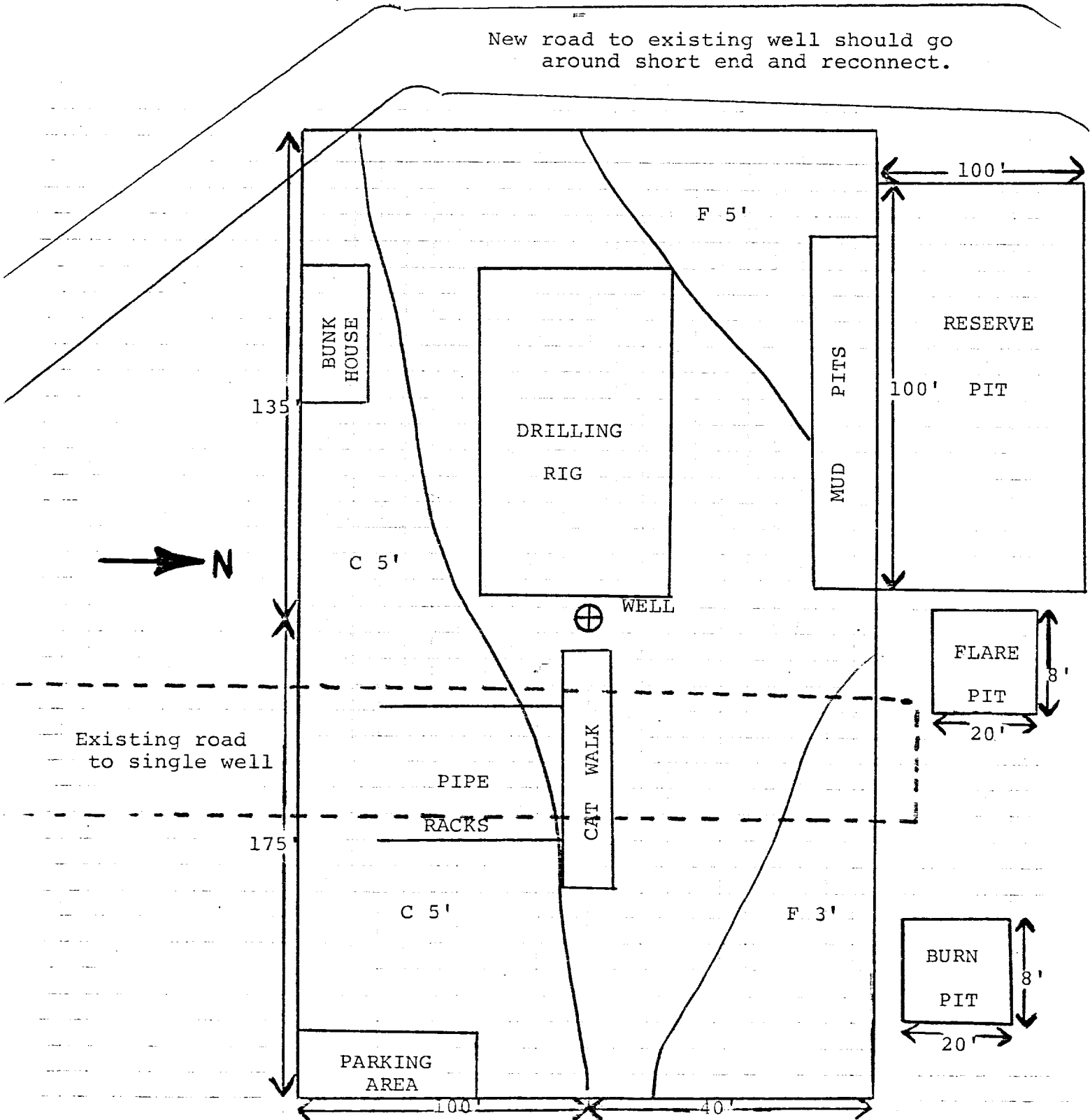
EXHIBIT IV

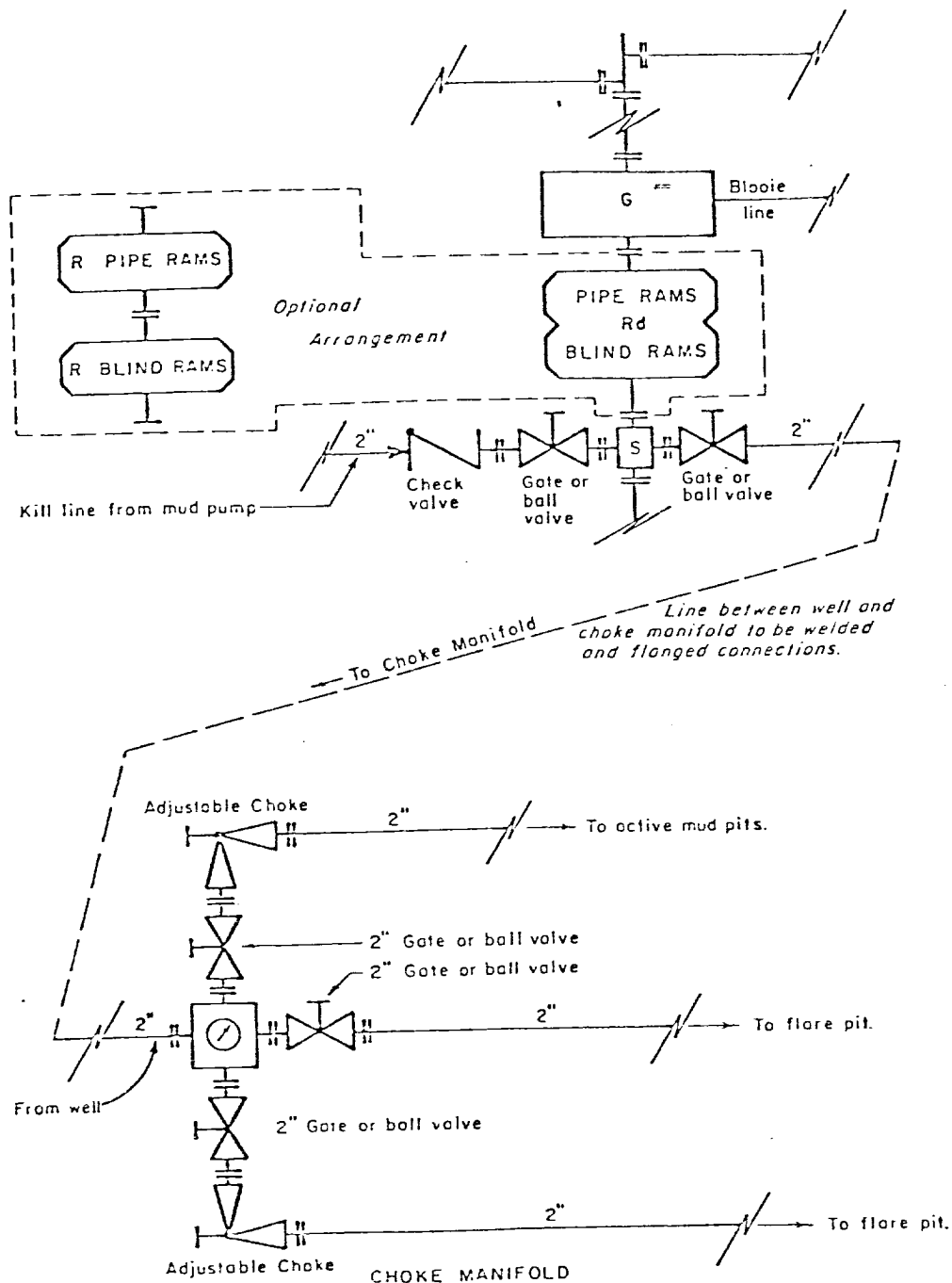
SUBJECT DRILLING WELL SITE LAYOUT DAY #5
 LOCATION 990' FSL, 990' FEL, SEC. 18, T 29N, R 8W

DATE: 11-79

SAN JUAN COUNTY, NEW MEXICO

New road to existing well should go around short end and reconnect.





- All equipment to be 3,000 psi working pressure except as noted.
- Rd Double ram type preventer with two sets of rams.
 - R Single ram type preventer with one set of rams.
 - S Drilling spool with side outlet connections for choke and kill lines.
 - G Rotating head 150 psi working pressure minimum

ARRANGEMENT C

TENNECO OIL COMPANY
 ROCKY MOUNTAIN DIVISION
 REQUIRED MINIMUM
 BLOWOUT PREVENTER AND
 CHOKE MANIFOLD